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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,518	01/30/2002	William D. Fisher	10010469-1	3691

7590 06/09/2004

AGILENT TECHNOLOGIES, INC.
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EXAMINER	
FORMAN, BETTY J	

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/066,518	FISHER ET AL.	
	Examiner	Art Unit	
	BJ Forman	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) *20-43* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-19 in papers filed 31 March 2004 is acknowledged. The traversal is on the grounds(s) that it would not be undue burden to examine the claims of all groups I-III. However, it is maintained that undue burden would be required to examine the claims of groups II and III along with claims of group I as evidenced by the fact that the claims of groups I, II and III have acquired a separate status in the art as recognized by their different classifications as recognized by their divergent subject matter and because a search of the subject matter of invention I is not co-extensive with a search of inventions II-III. Specifically, a search of the subject matter of Invention I would encompass a search of deposition methods including steps of droplet placement and arrangement. In contrast, the subject matter of Invention II would encompass structural components of an apparatus including deposition heads, transport systems, and processors for controlling the apparatus (not encompassed by the subject matter of Invention I) and a search of the subject matter of Invention III would encompass a search of computer programs and computer programming(not encompassed by the subject matter of Invention I). Hence, a search of the subject matter of Inventions II and III would not be co-extensive with the subject matter of Invention I.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1-19 are indefinite in Claim 1 for the recitation "different sets being arranged in a sideways orientation with respect to the rows" because it is unclear what positional arrangement "sideways orientation" describes. A sideways orientation is confusing in the context of array fabrication because the phrase contradicting interpretations i.e. parallel or perpendicular. Hence it is unclear what arrangement is being claimed. It is suggested that the claim be amended to clarify.

b. Claims 1-19 are indefinite in Claim 1 for the recitation "moving them" because it is unclear whether "them" refers to the drops or the substrate and head.

c. Claims 1-19 are indefinite in Claim 1 because the claim is drawn to dispensing drops....onto a substrate while maintaining a gap.....along a path so as to fabricate the arrays wherein the path comprises a-c. However, the claim does not define or describe where along the path or when during the moving the drops are dispensed. Hence it is unclear whether the method fabricates an array OR the multiple arrays as claimed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-15 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated by Fisher (U.S. Patent No. 6,232,072, filed 15 October 1999).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The claims are drawn to array of different sets. However, the claims do not define the composition or structure of the "sets". As such the "set" encompasses a variety of array components from physical regions on the array to biopolymers deposited onto the array.

Regarding Claim 1, Fisher discloses the method for fabricating an array comprising dispensing drops from a drop dispenser while maintaining a gap between the head and substrate (Fig. 4&5), and moving the head and substrate relative to each other (along axis #110) wherein the moving is in the direction of row for a first set, and then in the opposite direction (#110a) along the rows of a second set (move via axis #106 to position over second set and repeating the positioning and moving in the 110/110a/106 axis (Column 6, lines 50-Column 7, line 15 and Column 8, lines 4-29).

Regarding Claim 2, Fisher discloses the array are biopolymer arrays (Abstract).

Regarding Claim 3, Fisher discloses the first and second set are adjacent i.e. row-by-row format placing (Column 6, lines 11-29; Column 7, lines 4-6 and Fig. 1-2).

Regarding Claim 4, Fisher discloses the repeating is with the same two array sets e.g. the array sets are the same (Column 6, lines 11-29).

Regarding Claim 5, Fisher disclose the moving is repeated multiple times with a new second array i.e. to provide all different features (Column 6, lines 11-29).

Regarding Claim 6, Fisher discloses each second array set is adjacent the first array set i.e. the head is moved in the direction of the 106 axis, then 110a axis prior to subsequent deposition axis (Column 6, lines 50-Column 7, line 15 and Column 8, lines 4-29).

Regarding Claim 7, Fisher discloses repeating moving the head and substrate relative to each other while dispensing axis (Column 6, lines 50-Column 7, line 15 and Column 8, lines 4-29).

Regarding Claim 8, Fisher discloses the head is reloaded with fluid between repetitions i.e. the reservoir supplies the head during deposition (Column 9, lines 31-48).

Regarding Claim 9, Fisher discloses each repeated movements of the head are parallel and offset from one another i.e. the head is moved in the direction of the 106 axis, then 110a axis prior to subsequent deposition axis to provide parallel rows (Column 6, lines 50-Column 7, line 15 and Column 8, lines 4-29 and Fig. 1-2).

Regarding Claim 10, Fisher discloses the rows of features are straight lines i.e. rows and columns (Column 10, lines 32-34).

Regarding Claim 11, Fisher discloses each array has multiple arrays arranged in the direction of rows (Fig.1 and Column 6, lines 12-15).

Regarding Claim 12, Fisher discloses each array has multiple arrays are spaced apart (Fig.1 and Column 6, lines 12-15).

Regarding Claim 13, Fisher discloses the array have the same layout i.e. "identical" (Column 6, lines 12-15).

Regarding Claims 14-15, Fisher discloses the method wherein the rows are dispensed while the head is moving in the same direction along the rows (Column 7, lines 1-15).

Regarding Claim 18, Fisher discloses the method wherein the head has multiple dispensers (#40 Column 6, lines 50-60).

Regarding Claim 19, Fisher discloses the dispensers are pluse jets (Column 9, lines 31-48).

6. Claims 1-15 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Caren et al (U.S. Patent No. 6,323,043, filed 30 April 1999).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Caren et al disclose the method for fabricating an array comprising dispensing drops from a drop dispenser while maintaining a gap between the head and substrate (Column 13, lines 1-2), and moving the head and substrate relative to each other wherein the moving is in the direction of row for a first set, and then in the opposite direction along the rows of a second set and repeating the positioning and moving (Column 12, line 40-Column 13, line 9).

Regarding Claim 2, Caren et al disclose the array are biopolymer arrays (Abstract).

Regarding Claim 3, Caren et al disclose the first and second set are adjacent i.e. line-by-line (Column 12, line 40-Column 13, line 9).

Regarding Claim 4, Caren et al disclose the repeating is with the same two array sets e.g. the array sets are the same (Column 6, lines 52-67).

Regarding Claim 5, Caren et al disclose the moving is repeated multiple times with a new second array i.e. to provide all different features (Column 6, lines 52-67).

Regarding Claim 6, Caren et al disclose each second array set is adjacent the first array set (Column 6, lines 52-67 and Fig. 1).

Regarding Claim 7, Caren et al disclose repeating moving the head and substrate relative to each other while dispensing axis (Column 4, lines 31-35).

Regarding Claim 8, Caren et al disclose the head is reloaded with fluid between repetitions (Column 12, lines 40-64).

Regarding Claim 9, Caren et al disclose each repeated movements of the head are parallel and offset from one another i.e. line-by-line (Column 12, line 40-Column 13, line 9).

Regarding Claim 10, Caren et al disclose the rows of features are straight lines i.e. rows and columns (Column 14, lines 27-29).

Regarding Claim 11, Caren et al disclose each array has multiple arrays arranged in the direction of rows (Fig.1 and Column 6, lines 52-67).

Regarding Claim 12, Caren et al disclose each array has multiple arrays are spaced apart (Fig.1 and Column 6, lines 52-67).

Regarding Claim 13, Caren et al disclose the array have the same layout i.e. "identical" (Column 6, lines 52-53).

Regarding Claims 14-15, Caren et al disclose the method wherein the rows are dispensed while the head is moving in the same direction along the rows (Column 4, lines 31-35).

Regarding Claim 18, Caren et al disclose the method wherein the head has multiple dispensers (Column 5, lines 3-13).

Regarding Claim 19, Caren et al disclose the dispensers are pluse jets (Column 5, lines 3-13).

7. Claims 1-16 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Webb (U.S. Patent No. 6,613,893, filed 31 July 2000).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Webb discloses the method for fabricating an array comprising dispensing drops from a drop dispenser while maintaining a gap between the head and substrate, and moving the head and substrate relative to each other wherein the moving is in the direction of row for a first set, and then in the opposite direction along the rows of a second set and repeating the positioning and moving (Column 7, lines 48-Column 9, line 55 and Fig. 4).

Regarding Claim 2, Webb discloses the array are biopolymer arrays (Abstract).

Regarding Claim 3, Webb discloses the first and second set are adjacent (Fig. 4).

Regarding Claim 4, Webb discloses the repeating is with the same two array sets (Column 5, lines 50-67 and Fig. 4).

Regarding Claim 5, Webb disclose the moving is repeated multiple times with a new second array (Column 5, lines 50-67 and Fig. 4).

Regarding Claim 6, Webb discloses each second array set is adjacent the first array set (Column 5, lines 50-67 and Fig. 1-4).

Regarding Claim 7, Webb discloses repeating moving the head and substrate relative to each other while dispensing (Column 9, lines 47-55).

Regarding Claim 8, Webb discloses the head is reloaded with fluid between repetitions (Column 9, lines 59-62).

Regarding Claim 9, Webb discloses each repeated movements of the head are parallel and offset from one another (Column 7, lines 48-Column 9, line 55 and Fig. 4).

Regarding Claim 10, Webb discloses the rows of features are straight lines i.e. rows and columns (Column 3, line 66-Column 4,line 13 and Fig. 4).

Regarding Claim 11, Webb discloses each array has multiple arrays arranged in the direction of rows (Column 3, line 66-Column 4,line 13 and Fig. 4).

Regarding Claim 12, Webb discloses each array has multiple arrays are spaced apart (Column 6, line 47-Column 7, line 24).

Regarding Claim 13, Webb discloses the array have the same layout i.e. "the same" (Column 6, lines 56-57).

Regarding Claims 14-15, Webb discloses the method wherein the rows are dispensed while the head is moving in the same direction along the rows (Column 7, lines 47-55).

Regarding Claim 16, Webb disclose the method additionally comprising separating the substrate into units carrying an array (Column 14, lines 15-18)

Regarding Claim 18, Webb discloses the method wherein the head has multiple dispensers (Column 2, lines 47-54).

Regarding Claim 19, Webb discloses the dispensers are pluse jets (Column 2, lines 47-54).

8. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Webb (U.S. Patent No. 6,599,693, filed 31 July 2000).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Webb discloses the method for fabricating an array comprising dispensing drops from a drop dispenser while maintaining a gap between the head and substrate, and moving the head and substrate relative to each other wherein the moving is in the direction of row for a first set, and then in the opposite direction along the rows of a second set and repeating the positioning and moving (Column 6, lines 48-Column 9, line 17 and Fig. 4).

Regarding Claim 2, Webb discloses the array are biopolymer arrays (Abstract).

Regarding Claim 3, Webb discloses the first and second set are adjacent (Fig. 1-4).

Regarding Claim 4, Webb discloses the repeating is with the same two array sets (Column 6, lines 3-15; Column 7, lines 13-39 and Fig. 4).

Regarding Claim 5, Webb disclose the moving is repeated multiple times with a new second array (Column 5, line 53-Column 6, line 28 and Fig. 1-4).

Regarding Claim 6, Webb discloses each second array set is adjacent the first array set (Column 5, line 53-Column 6, line 28 and Fig. 1-4).

Regarding Claim 7, Webb discloses repeating moving the head and substrate relative to each other while dispensing (Column 7, lines 13-39).

Regarding Claim 8, Webb discloses the head is reloaded with fluid between repetitions (Column 7, lines 13-39).

Regarding Claim 9, Webb discloses each repeated movements of the head are parallel and offset from one another (Column 6, lines 48-Column 9, line 17 and Fig. 4).

Regarding Claim 10, Webb discloses the rows of features are straight lines (Column 6, lines 48-Column 9, line 17 and Fig. 4).

Regarding Claim 11, Webb discloses each array has multiple arrays arranged in the direction of rows (Column 5, line 53-Column 6, line 28 and Fig. 1-4).

Regarding Claim 12, Webb discloses each array has multiple arrays are spaced apart (Column 5, line 53-Column 6, line 28 and Fig. 1-4).

Regarding Claim 13, Webb discloses the array have the same layout i.e. "the same" (Column 6, lines 4-5).

Regarding Claims 14-15, Webb discloses the method wherein the rows are dispensed while the head is moving in the same direction along the rows (Column 7, lines 13-39 and 44-48).

Regarding Claim 16, Webb disclose the method additionally comprising separating the substrate into units carrying an array (Column 12, lines 40-43).

Regarding Claim 17, Webb discloses the method further comprising adding identifiers to the substrate i.e. fiducials (Column 9, lines 6-14).

Regarding Claim 18, Webb discloses the method wherein the head has multiple dispensers (Abstract).

Regarding Claim 19, Webb discloses the dispensers are pluse jets (Abstract).

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,613,893. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to methods of fabricating multiple arrays comprising moving a dispensing head along a path while dispensing drops along the path. The claim sets differ only in the patent method further limits the deposition to advancing the head system between depositions until an array is formed. While the instant claims recite the broader embodiment of dispensing while moving along a path. However, the open claim language "comprising" encompasses the additional elements of the patent claims. Furthermore, the instant claims are a genus of the patent species. Hence the instant claims are obvious in view of the patent methods.

The courts have stated that a genus is obvious in view of the teaching of a species see Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); and In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

11. Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,599,693. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to methods of fabricating multiple arrays comprising moving a dispensing head along a path while dispensing drops along the path. The claim sets differ only in the patent method further limits the deposition to a pulse jet dispenser (i.e. species). While the instant claims are drawn to a drop dispensing head (i.e. genus). The instant claims being a genus of the patent species are obvious in view of the patent methods.

Conclusion

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
June 7, 2004